

WHAT IS CLAIMED IS:

1. A semiconductor device comprising:

a semiconductor chip having a plurality of semiconductor elements on a main surface of the semiconductor chip;

a plurality of external terminals on the main surface of the semiconductor chip;

a wiring substrate having a first surface, a second surface, opposed to the first surface, and a plurality of wires, the wiring substrate being positioned at the periphery of the semiconductor chip;

a plurality of bump electrodes provided on the first surface of the wiring substrate, electrically connected to the plurality of external terminals through the plurality of wires, respectively, and

a substrate positioned over the second surface of the wiring substrate and overlapped with the plurality of bump electrodes, in a plan view,

wherein all bump electrodes which are electrically connected with the plurality of external terminals are arrayed at the periphery of the semiconductor chip.

2. A semiconductor device according to claim 1, wherein the wiring substrate is comprised of a polyimide tape.

3. A semiconductor device according to claim 1, wherein the wiring substrate is flexible.

4. A semiconductor device according to claim 1, wherein the bump electrodes at the periphery of the semiconductor chip form an array conforming to the shape of the semiconductor chip.

5. A semiconductor device according to claim 4, wherein the array includes at least two annular rings of bump electrodes.

6. A semiconductor device according to claim 5, further comprising an elastic layer positioned between the wiring substrate and the substrate.

7. A semiconductor device according to claim 6, wherein the substrate is a support ring for the wiring substrate.

8. A semiconductor device according to claim 5, wherein the substrate is a support ring for the wiring substrate.